WHAT IS CLAIMED IS

1. An antenna comprising a main body having a flat part, an antenna electrode provided on the flat part of this body, a signal electrode electrically connected to this antenna electrode, and a grounding electrode provided in a way to face said antenna electrode of the main body, said antenna electrode being different in length at the X axis from the Y axis orthogonal or about orthogonal to it.

2. An antenna as defined in Claim 1, wherein the main body is flat.

3. An antenna as defined in Claim 1 or Claim 2, wherein the signal electrode is formed on the main body at about 45° from the intersection of the X axis and Y axis.

4. An antenna as defined in Claim 1, wherein the signal electrode is provided in a state not in contact with the antenna electrode.

5. An antenna as defined in Claim 1, wherein the electrical connecting part between the signal electrode and the antenna electrode is realized in concave and convex shape.

6. An electronic equipment at least one of the transmitting circuit and the receiving circuit of which is electrically connected to the antenna as defined in either one of Claims 1 to 5.

7. An electronic equipment comprising a circuit board and an antenna mounted on the surface of this circuit board, said antenna comprising a main body having a flat part, an antenna electrode provided on the flat part of this body, and a grounding electrode provided on the main body portion facing this antenna electrode, said circuit board comprising a signal electrode on its surface, wherein the antenna is mounted on the surface of the circuit board

in the state in which this signal electrode is made to face the no-electrode part of the grounding electrode formed at the portion where the grounding electrode of said antenna is provided.

8. An antenna as defined in Claim 1, wherein the electric length on the X axis and Y axis are set for about half wave lengths.

9. An antenna as defined in Claim 1, wherein the clearance between the antenna electrode and the grounding electrode is variable, and this clearance between the antenna electrode and the grounding electrode in the area around the central part (intersection of X axis and Y axis) of the antenna electrode is larger than that in the peripheral area of the antenna electrode.

10. An antenna as defined in Claim 9, wherein the clearance between the antenna electrode and the grounding electrode is widened at the point of about 1/8 in electric length from the peripheral part of the antenna electrode.

11. An antenna as defined in Claim 9, wherein the section of the antenna electrode is in stepped shape on the X axis and Y axis.

12. An antenna as defined in Claim 9, wherein the section of the grounding electrode is in stepped shape on the X axis and Y axis.

13. An antenna as defined in Claim 1, wherein the main body between the antenna electrode and the grounding electrode is composed of either a dielectric material, a magnetic material or a mixture of dielectric material and magnetic material, the value obtained by dividing the relative permeability by the relative permittivity of the main body varies at an optional point in the area from the peripheral part of the antenna electrode to the central part of the antenna electrode, and the value obtained by dividing the relative permeability by the relative permittivity of said main

body in the area around the central part is made larger than the value obtained by dividing the relative permeability by the relative permittivity of the main body in the peripheral area of the antenna electrode.

14. An antenna as defined in Claim 13, wherein the value obtained by dividing the relative permeability by the relative permittivity of the main body is made larger at the point of about 1/8 in electric length from the peripheral part of the antenna electrode.

15. An antenna as defined in Claim 1, having 4 slits axially symmetrical against X axis and Y axis on the antenna electrode, and constructed in such a way that 2 sides of the respective slits get about in contact with straight lines orthogonal to the X axis and Y axis at an optional point in the area from the peripheral part of the antenna electrode to the central part of the antenna electrode.

16. An antenna as defined in Claim 15, constructed in such a way that 2 sides of the respective slits get about in contact with straight lines orthogonal to the X axis and Y axis at the point of about 1/8 in electric length from the peripheral part of the antenna electrode.

17. An antenna as defined in Claim 1, wherein a central signal electrode is provided near the intersection of X axis and Y axis, and this central signal electrode electrically connects between the antenna electrode and a high-frequency circuit.

18. An antenna as defined in Claim 17, wherein a matching circuit is connected to the central signal electrode.

19. An antenna as defined in Claim 18, wherein the main body is constructed with a layered product, and the matching circuit is

formed in said layered product.

20. An antenna as defined in Claim 17, wherein the working frequency of the communication system connected to the signal electrode is differentiated from the working frequency of the communication system connected to the central signal electrode.

21. An antenna as defined in Claim 1, wherein the bottom face of the main body is mounted on the top face of the high-frequency circuit board as mounting face, a concave part is formed on said bottom face of the main body, a no-electrode part of grounding electrode is provided inside this concave part, and a high-frequency circuit is mounted in the area covered by the concave part on said bottom face of the main body on the top face of said high-frequency circuit board.

22. An antenna as defined in Claim 21, wherein a concave part is provided, on the bottom face of the main body, at a position of about $\lambda/8$ in electric length from the peripheral part of the main body.

23. An antenna as defined in Claim 21, wherein a high-frequency circuit is mounted inside the concave part.

24. An antenna as defined in Claim 21, wherein a concave part is provided, on the bottom face of the main body, also in the peripheral area of the main body other than the areas near the X axis and Y axis.

25. An antenna as defined in Claim 1, wherein the bottom face of the main body is mounted on the top face of the high-frequency circuit board as mounting face, a convex part is formed on said bottom face of the main body, on the surface of this convex part is formed about the entire part of the grounding electrode, and a high-

frequency circuit is mounted in the area other than the area where the convex part on said bottom face of the main body on the top face of said high-frequency circuit board is mounted on said high-frequency circuit board.

26. An antenna as defined in Claim 1, wherein the bottom face of the main body is mounted on the top face of the high-frequency circuit board as mounting face, a convex part is formed on said bottom face of the main body, on the surface of this convex part is formed about the entire part of the grounding electrode, in part of the area at the bottom face of the main body to be in contact with said high-frequency circuit board is formed a concave part, inside this concave part is provided a no-electrode part of the grounding electrode, and a high-frequency circuit is mounted in the area other than the area where the convex part on said bottom face of the main body on the top face of said high-frequency circuit board is mounted on said high-frequency circuit board and the area covered by the concave part.

27. An antenna as defined in Claim 21 or Claim 26, wherein the value obtained by dividing the relative magnetic permeability by the relative permittivity of the base material of the main body is no larger than 1.

28. An antenna as defined in Claim 1, wherein the bottom face of the main body is mounted on the top face of the high-frequency circuit board as mounting face, a convex part is formed on said bottom face of the main body, on the surface of this convex part other than the area to be in contact with the high-frequency circuit board is formed about the no-electrode part of the grounding electrode, and a high-frequency circuit is mounted in the area other than the

area where the convex part on said bottom face of the main body on the top face of said high-frequency circuit board is mounted on said high-frequency circuit board.

29. An antenna as defined in Claim 28, wherein the value obtained by dividing the relative magnetic permeability by the relative permittivity of the base material of the main body is no smaller than 1.

30. An antenna as defined in either one of Claims 21, 25, 26 or 28, wherein the signal electrode and/or the central signal electrode are constructed with a conductive pin passing through the main body.

31. An antenna as defined in either one of Claims 21, 25, 26 or 28, wherein the signal electrode and/or the central signal electrode are constructed with a via hole passing through the main body and a conductive pattern formed inside the concave part.

32. An antenna as defined in either one of Claims 21, 25, 26 or 28, wherein the signal electrode and/or the central signal electrode are constructed with a conductive pattern formed inside the concave part facing the antenna electrode, in a way to perform transmission and reception of high-frequency signals by capacity coupling.

33. An antenna comprising a grounding board composed of a conductor plate, a radiation board composed of a conductor plate provided facing this grounding board, said radiation board being different in length at its X axis and Y axis either orthogonal or about orthogonal to it and at about half wave of the workable frequency range, constructed by bending a feed conductor, provided at the terminal of said radiation board on straight lines having

an angle of about 45° against the X and Y axes at their intersection, downward in a way to have an angle of about 90° against said radiation board.

34. An antenna as defined in Claim 33, wherein the polarization system is that of either circular polarization or elliptical polarization.

35. An antenna as defined in Claim 33, wherein a matching circuit is connected to the feeding conductor.

36. An antenna as defined in Claim 35, wherein the matching circuit is disposed on a face without radiation board through the grounding board.

37. An antenna as defined in Claim 33, comprising a fixing conductor for fixing the radiation board, the top end of this fixing conductor being connected to an area at the end part of radiation board around the straight line connecting between the intersection of the X axis and Y axis of the radiation board and the feeding conductor provided at the end part of the radiation board, where the feeding conductor is not disposed, the other end of the fixing conductor being fixed at a certain distance from the grounding board.

38. An antenna as defined in Claim 33, comprising one or two fixing conductors for fixing the radiation board, the top end of this fixing conductor being connected to the end part of radiation board around the second straight line diagonal to the first straight line connecting the intersection of the X axis and Y axis of the radiation board and the feeding conductor provided at the end part of the radiation board at the intersection of the X axis and Y axis, the other end of the fixing conductor being fixed at a certain

distance from the grounding board.

39. An antenna as defined in Claim 33, wherein a conductor for fixing the antenna constructed by being bent downward in a way to have an angle of about 90° against the radiation board, an a reactance element is inserted between the end part of this antenna fixing conductor not connected to the radiation board and the grounding board.

40. An antenna as defined in Claim 33, wherein two slits are provided, from the connecting portion between the feeding conductor and the radiating board toward the inner direction of the radiation board, in parallel with a an interval equal to the width of the feeding conductor.

41. An antenna as defined in Claim 33, wherein two slits are provided, from the connecting portion between the feeding conductor and the radiating board toward the inner direction of the radiation board, in parallel with a an interval equal to the width of the feeding conductor, and the bending position of the feeding conductor bent downward in a way to have an angle of about 90° against the radiation board is moved to the inner direction of the radiation board.

42. An antenna comprising a grounding board composed of a conductor board, a radiation board composed of a conductor board provided facing this grounding board, notches at corners of said radiation board for differentiating the length of the X axis of this radiation board from that of the X axis orthogonal or about orthogonal to it, and a feeding conduction provided on the straight line having an angle of about 45° against the X axis and X axis at the intersection of the two axes, said notches in said radiation

board being disposed at positions facing the corner part of said grounding board.

43. An antenna comprising a grounding board composed of a conductor board, a plurality of radiation boards composed of conductor board provided on one same face facing this grounding board, notches at corners of said plurality of radiation boards for differentiating the length of the X axis of these radiation boards from that of the X axis orthogonal or about orthogonal to it, and a feeding conductor provided on the straight line having an angle of about 45° against the X axis and X axis at the intersection of the two axes on each of the plurality of radiation boards, said notches in said plurality of radiation boards being disposed at positions facing the corner part of said grounding board.

44. An antenna comprising a grounding board composed of a conductor board, radiation boards composed of conductor board provided over and below the grounding board facing this grounding board, notches at corners of said radiation boards for differentiating the length of the X axis of these radiation boards from that of the X axis orthogonal or about orthogonal to it, and a feeding conductor provided on each of the straight lines having an angle of about 45° against the X axis and X axis at the intersection of the two axes on each of the plurality of radiation boards, the notches in said radiation boards being disposed over and below through the grounding board respectively, the upper and lower radiation boards being disposed at positions near the corner part of the grounding board.

45. An antenna as defined in either one of Claim 42 or 43, wherein the feeding conductor is disposed at about the end part of the

radiation board and at a position other than the end part of the grounding board.

46. An antenna as defined in Claim 44, wherein the feeding conductor is disposed at about the end part of the radiation board and at a position other than the end part of the grounding board.

47. An antenna as defined in Claim 44, wherein the feeding conductor is disposed at about the end part of the radiation board and at a position other than the end part of the grounding board, and the both the upper and lower feeding conductors are disposed at positions facing each other through the grounding board.

48. An antenna as defined in Claim 44, wherein the feeding conductor is disposed at about the end part of the radiation board and at a position other than the end part of the grounding board, and the radiation boards are disposed in such a way that the notches in the radiation boards disposed over and below through the grounding board may not exist near the corner part of the grounding board.

49. An antenna as defined in either one of Claims 42 to 44, wherein the polarization system is that of either circular polarization or elliptical polarization.

50. An antenna as defined in either one of Claims 43 or 44, wherein a radiation board adapted to clockwise polarized wave and a radiation board adapted to counterclockwise polarized wave the feeding conductor are disposed above and/or below through the grounding board.

51. An electronic equipment loaded with the antenna indicated in either one of Claims 42 to 44.

52. An electronic equipment as defined in Claim 51, having a

mechanism capable of changing the orientation of the antenna indicated in either one of Claims 42 to 44.